

IGBT MODULE

GCA75BA60

TOP



UL;E76102 (M)

SanRex IGBT Module **GCA75BA60** is designed for high speed, high current switching applications. This Module is electrically isolated and contains two IGBTs connected in series with a fast switching, soft recovery diode ($t_{rr}=0.1\mu s$) reverse connected across each IGBT.

● $I_C=75A$ $V_{CES}=600V$

● $V_{CE(sat)}=2.4V$ Typ

● $t_f=0.10\mu s$ Typ

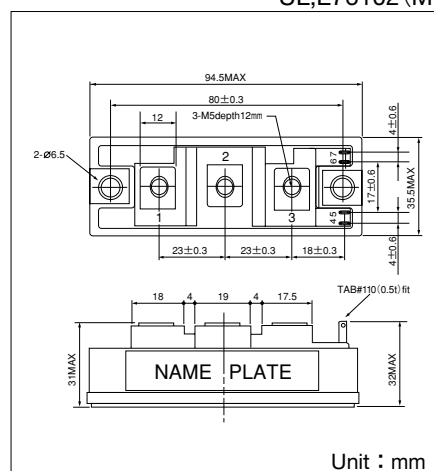
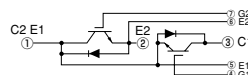
● Soft recovery diode

(Applications)

Inverter for motor control (VVF)

UPS, AC servo

DC power supply, Welder



Unit : mm

Maximum Ratings

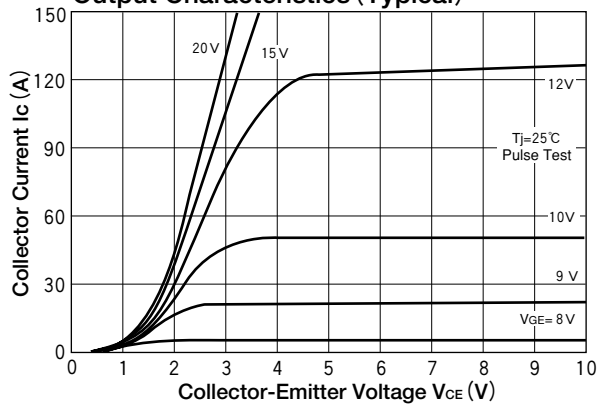
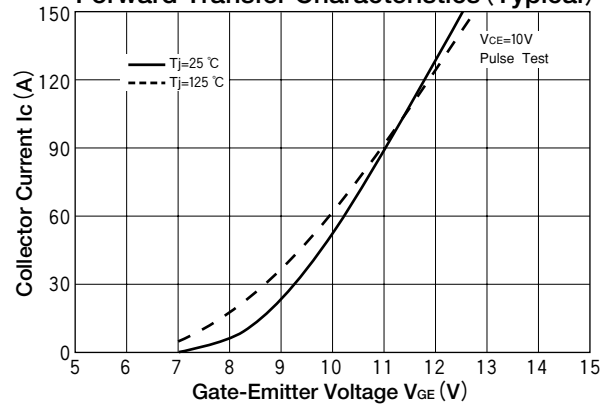
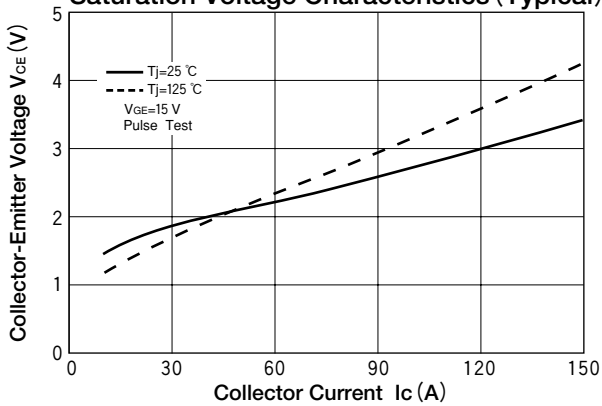
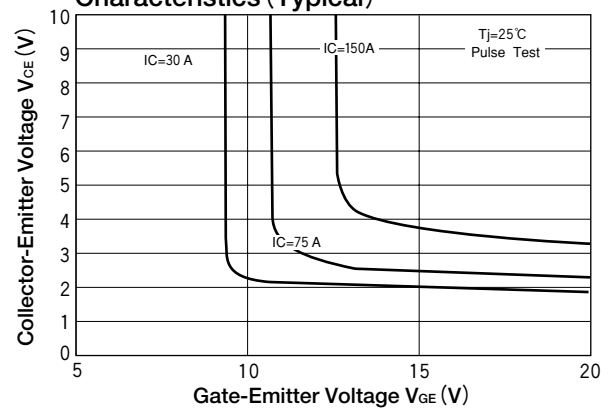
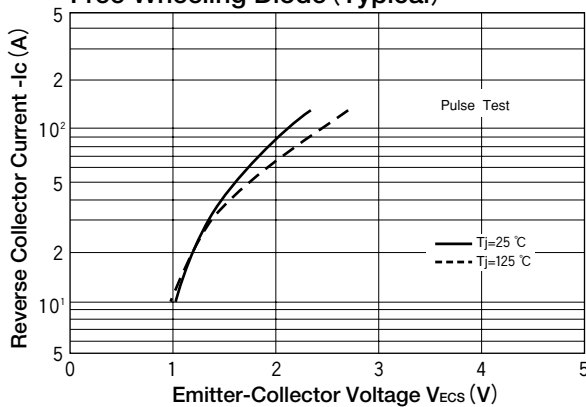
(T_j=25°C unless otherwise specified)

Symbol	Item		Conditions	Ratings	Unit
				GCA75BA60	
V_{CES}	Collector-Emitter Voltage		with gate terminal shorted to emitter	600	V
V_{GES}	Gate-Emitter Voltage		with collector shorted to emitter	±20	V
I_C	Collector Current	DC		75	A
I_{CP}		Pulse (1 ms)		150	
$-I_C$	Reverse Collector Current			75	A
P_C	Total Power Dissipation		T _c =25°C	315	W
T_j	Junction Temperature			150	°C
T_{stg}	Storage Temperature			-40 to +125	°C
V_{ISO}	Isolation Voltage (R.M.S.)		A.C. 1 minute	2500	V
	Mounting Torque	Mounting (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass		Typical Value	210	g

Electrical Characteristics

(T_j=25°C unless otherwise specified)

Symbol	Item		Conditions	Ratings			Unit
				Min.	Typ.	Max.	
I_{GES}	Gate Leakage Current		$V_{GE}=\pm 20V$, $V_{CE}=0V$			±500	nA
I_{CES}	Collector Cut-Off Current		$V_{CE}=600V$, $V_{GE}=0V$			1.0	mA
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage		$V_{GE}=0V$, $I_C=1mA$	600			V
$V_{GE(th)}$	Gate Threshold Voltage		$V_{CE}=10V$, $I_C=7.5mA$	3.0		7.0	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C=75A$, $V_{GE}=15V$		2.4	2.8	V
C_{ies}	Input Capacitance		$V_{CE}=10V$, $V_{GE}=0V$, $f=1MHz$		4	7.5	nF
t_r	Switching Time	Rise Time	$I_C=75A$, $V_{GE}=+15V/-5V$ $V_{CC}=300V$, $R_G=8\Omega$		0.10	0.20	μs
$t_d(on)$		Turn-on Delay Time			0.20	0.40	
t_f		Fall Time			0.10	0.20	
$t_d(off)$		Turn-off Delay Time			0.40	0.80	
V_{ECS}	Emitter-Collector Voltage		$-I_C=75A$, $V_{GE}=0V$		1.80	2.80	V
t_{rr}	Reverse Recovery Time		$-I_C=75A$, $V_{GE}=-10V$, $di/dt=150A/\mu s$		0.1	0.15	μs
$R_{th(j-c)}$	Thermal Resistance		IGBT-Case			0.40	°C/W
			Diode-Case			0.55	

**Output Characteristics (Typical)****Forward Transfer Characteristics (Typical)****Saturation Voltage Characteristics (Typical)****Collector-Emitter Saturation Voltage Characteristics (Typical)****Forward Voltage of Free Wheeling Diode (Typical)****Input Capacitance, Output Capacitance, Reverse Transfer Capacitance (Typical)**